

CLAIM AMENDMENTS

1. A device for processing content data, the device comprises:

data processing circuitry operably coupled to process data received from an external content display device to produce presentation information;

content processing module operably coupled to process content data for presentation on the external content display device based on the presentation information; and

transceiving module operably coupled to the data processing circuitry and the content processing module, wherein the transceiving module separates modulated data from the content data, wherein the transceiving module retrieves the data from the modulated data, and wherein the transceiving module introduces the content data into a channel coupling the device to the external content display device.

2. The device of claim 1, wherein the content data comprises at least one of: audio data, video data, text data, and multimedia data.

3. The device of claim 1, wherein the data comprises at least one of: digitized audio, digitized video, and incoming remote control data.

4. The device of claim 3, wherein the remote control data comprises at least one of: volume adjust data, stop data, play data, pause data, rewind data, fast forward data, next track data, channel up/down data, bass boost data, record data, intensity data, contrast data, security access data, and telephone access code data.

5. The device of claim 3, wherein the data processing circuitry comprises:

parsing module operably coupled to receive the data, wherein the parsing module separates the data into the remote control data and the digitized audio;

remote control circuitry for process the remote control data to produce content presentation information, wherein the remote control circuitry provides the content presentation information to the content processing module, and wherein the content processing module processes the content data based on the content presentation information; and

signal processing module operably coupled to process the digitized audio, wherein the digitized audio is representative of audio signals received via a microphone of the external content display device.

6. The device of claim 1, wherein the transceiving module comprises:

high pass filter to separate the content data from the modulated data;

gain module operably coupled to provide gain to the modulated data to produce gained modulated data; and

data extraction circuit operably coupled to retrieve the data from the gain modulated data.

7. The device of claim 6, wherein the data extraction circuit comprises:

demodulator operably coupled to receive the gain modulated data and to produce therefrom demodulated data;

quantizer operably coupled to receive the demodulated data and to produce therefrom quantized data; and

digital filter operably coupled to receive the quantized data and produce therefrom the data.

8. The device of claim 6, wherein the data extraction circuit comprises:

clock recovery circuit operably coupled to generate a clock signal from the gain modulated data;

a correlator operably coupled to receive the clock signal, wherein the correlator detect patterns of the data contained within the modulated data to produce correlated data; and

phase comparator operably coupled to receive the correlated data and to produce therefrom the data.

9. The device of claim 1, wherein the data processing circuitry further comprises:

display information module operably coupled to provide outgoing display data to the transceiving module.

10. The device of claim 9, wherein the transceiving module further comprises:

data modulator operably coupled to modulate the outgoing display data to produce modulated outgoing display data; and

combining circuit operably coupled to combine the content data and the modulated display data to produce transmit data that is provided to the external content display device.

11. The device of claim 10, wherein the data modulator comprises:

pseudo random code generator operably coupled to produce a random code; and

modulator operably coupled to receive the random code and the outgoing display data to produce the modulated display data.

12. The device of claim 10, wherein the combining circuit comprises:

high pass filter operably coupled to the channel, wherein the high pass filter filters the modulated display data to produce filtered data, wherein the filtered data is provided on the channel; and

high frequency isolation module operably coupled to the channel, wherein the high frequency isolation module substantially attenuates the filtered data and passes the content data substantially unattenuated such that the content data is isolated from the modulated display data.

13. The device of claim 1 further comprises:

an external content display device detection module operably coupled to detect capabilities of the external content display device in preparing the data.

14. A device for processing content data, the device comprises:

data processing circuitry operably coupled to provide display data to an external content display device;

content processing module operably coupled to process content data for presentation on the external content display device; and

transceiving module operably coupled to the data processing circuitry and the content processing module, wherein the transceiving module combines the display data and the content data to produce transmit data, wherein the transceiving module provides the transmit data to the external content display device via a channel coupling the device to the external content display device.

15. The device of claim 14, wherein the transceiving module further comprises:

data modulator operably coupled to modulate the display data to produce modulated display data; and

combining circuit operably coupled to combine the content data and the outgoing display data to produce the transmit data.

16. The device of claim 15, wherein the data modulator comprises:

pseudo random code generator operably coupled to produce a random code; and

modulator operably coupled to receive the random code and the display data to produce the modulated display data.

17. The device of claim 15, wherein the combining circuit comprises:

high pass filter operably coupled to the channel, wherein the high pass filter filters the modulated display data to produce filtered data, wherein the filtered data is provided on the channel; and

high frequency isolation module operably coupled to the channel, wherein the high frequency isolation module substantially attenuates the filtered data and passes the content data substantially unattenuated such that the content data is isolated from the transmit modulated data.

18. The device of claim 14 further comprises:

an external content display device detection module operably coupled to detect capabilities of the external content display device in preparing the data.

19. A method for processing content data, the method comprises the steps of:
- receiving modulated data via a channel coupled to an external content display device;
 - introducing the content data into the channel coupling the device to the external content display device;
 - separating the modulated data from the content data;
 - retrieving data from the modulated data;
 - processing the data to produce presentation information; and
 - processing content data for presentation on the external content display device based on the presentation information.
20. The method of claim 19, wherein the data comprises at least one of: digitized audio, digitized video, and incoming remote control data, further comprises:
- parsing the data into the remote control data and the digitized audio;
 - processing the remote control data to produce content presentation codes;
 - processing the content data based on the content presentation codes; and
 - processing the digitized audio, wherein the digitized audio is representative of audio signals received via a microphone of the external content display device.
21. The method of claim 19, wherein the separating the modulated data from the content data further comprises:

high pass filtering the channel to separate the content data from the modulated data;

providing gain to the modulated data to produce gained modulated data; and

extracting the data from the modulated data.

22. The method of claim 21, wherein the extracting the data further comprises:

demodulating the gain modulated data to produce demodulated data;

quantizing the demodulated data to produce quantized data; and

digital filtering the quantized data to produce the data.

23. The method of claim 21, wherein the extracting the data further comprises:

generating a clock signal from the modulated data;

detecting, at a rate of the clock signal, patterns of the data contained within the modulated data to produce correlated data; and

phase comparing the correlated data to produce the data.

24. The method of claim 19 further comprises:

modulating display data to produce modulated display data; and

combining the content data and the modulated display data to produce transmit data that is provided to the external content display device.

25. The method of claim 24, wherein the modulating the display data further comprises:

generating a pseudo random code; and

modulating the pseudo random code and the display data to produce the modulated display data.

26. The method of claim 24, wherein the modulating the display data further comprises:

high pass filtering the modulated display data to produce filtered data, wherein the filtered data is provided on the channel; and

high frequency isolating the content data from the modulated display data by substantially attenuating the filtered data and passing the content data substantially unattenanted.

27. The method of claim 19 further comprises:

detecting capabilities of the external content display device in preparing the data.

28. A method for processing content data, the method comprises the steps of:

providing display data to an external content display device;

processing content data for presentation on the external content display device;

modulating the display data to produce modulated display data;

combining the modulated display data and the content data to produce transmit data; and

providing the transmit data to the external content display device via a channel coupling the device to the external content display device.

29. The method of claim 28, wherein the combining the display data and the content data further comprises:

modulating the display data at a rate that is substantially higher than the rate of the content data to produce modulated display data.

30. The method of claim 29, wherein the modulating the display data further comprises:

producing a pseudo random code; and

modulating the pseudo random code and the display data to produce the modulated display data.

31. The method of claim 28, wherein the combining further comprises:

high pass filtering the modulated display data to produce filtered data, wherein the filtered data is provided on the channel; and

high frequency isolating the content data from the modulated display data by substantially attenuating the filtered data and passing the content data substantially unattenanted.

32. The method of claim 28 further comprises:

detecting capabilities of the external content display device in preparing the data.

33. A device for processing content data, the device comprises:

a processing module; and

memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

receive modulated data via a channel coupled to an external content display device;

introduce the content data into the channel coupling the device to the external content display device;

separate the modulated data from the content data;

retrieve data from the modulated data;

process the data to produce processed data to produce presentation information; and

process content data for presentation on the external content display device based on the presentation information.

34. The device of claim 33, wherein the data includes at least one of: digitized audio, digitized video, and incoming remote control data, wherein the memory further comprises operational instructions that cause the processing module to:

parse the data into the remote control data and the digitized audio;

process the remote control data to produce content presentation codes;

process the content data based on the content presentation codes; and
process the digitized audio, wherein the digitized audio is representative of audio signals received via a microphone of the external content display device.

35. The device of claim 33, wherein the memory further comprises operational instructions that cause the processing module to separate the modulated data from the content data by:

high pass filtering the channel to separate the content data from the modulated data;
providing gain to the modulated data to produce gained modulated data; and
extracting the data from the modulated data.

36. The device of claim 35, wherein the memory further comprises operational instructions that cause the processing module to extract the data by:

demodulating the gain modulated data to produce demodulated data;
quantizing the demodulated data to produce quantized data; and
digital filtering the quantized data to produce the data.

37. The device of claim 35, wherein the memory further comprises operational instructions that cause the processing module to extract the data by:

generating a clock signal from the modulated data;
detecting, at a rate of the clock signal, patterns of the data contained within the modulated data to produce correlated data; and

phase comparing the correlated data to produce the data.

38. The device of claim 33, wherein the memory further comprises operational instructions that cause the processing module to:

modulate display data to produce modulated display data; and

combine the content data and the modulated display data to produce transmit data that is provided to the external content display device.

39. The device of claim 38, wherein the memory further comprises operational instructions that cause the processing module to modulate the display data by:

generating a pseudo random code; and

modulating the pseudo random code and the display data to produce the modulated display data.

40. The device of claim 38, wherein the memory further comprises operational instructions that cause the processing module to modulate the display data by:

high pass filtering the transmit modulated display data to produce filtered data, wherein the filtered data is provided on the channel; and

high frequency isolating the content data from the modulated display data by substantially attenuating the filtered data and passing the content data substantially unattenanted.

41. The device of claim 33, wherein the memory further comprises operational instructions that cause the processing module to:

detecting capabilities of the external content display device in preparing the data.

42. A device for processing content data, the device comprises:

a processing module; and

memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

provide display data to an external content display device;

process content data for presentation on the external content display device;

modulate the display data to produce modulated display data;

combine the modulated display data and the content data to produce transmit data;
and

provide the transmit data to the external content display device via a channel coupling the device to the external content display device.

43. The device of claim 42, wherein the memory further comprises operational instructions that cause the processing module to combine the display data and the content data by:

modulating the display data at a rate that is substantially higher than the rate of the content data to produce modulated display data.

44. The device of claim 43, wherein the memory further comprises operational instructions that cause the processing module to modulate the display data further comprises:

producing a pseudo random code; and

modulating the pseudo random code and the display data to produce the modulated display data.

45. The device of claim 42, wherein the memory further comprises operational instructions that cause the processing module to combine by:

high pass filtering the transmit modulated data to produce filtered data;

summing the filtered data and the content data to produce the transmit data; and

high frequency isolating the content data from the transmit data.

46. The device of claim 42, wherein the memory further comprises operational instructions that cause the processing module to:

detect capabilities of the external content display device in preparing the data.